

### **Amendments to the Specification:**

Please replace the paragraph spanning lines 4-12 of page 20 of the Substitute Specification as follows:

In this embodiment, the variable refractive index material 22 has a refractive index anisotropy and a dielectric constant anisotropy. This embodiment uses an example in which the dielectric constant anisotropy  $\Delta\epsilon (= \epsilon_{\parallel} - \epsilon_{\perp}$  (dielectric constant in parallel to a longer axis of the molecule) -  $\epsilon_{\perp}$  (dielectric constant in a direction perpendicular to the longer axis of the molecule)) is positive at a frequency  $f1$ , and the dielectric constant anisotropy  $\Delta\epsilon$  is negative at a frequency  $f2$ . Further, this embodiment uses an example in which the refractive index anisotropy  $n_o$  (ordinary refractive index) is substantially equal to the refractive index of the transparent material layer 21, and  $n_e$ , (extraordinary refractive index) is substantially greater than the refractive index of the transparent material layer 21.

Please replace the paragraph spanning lines 9-20 of page 23 of the Substitute Specification as follows:

Fig. 7 shows a specific example of the driving frequency dependency of the dielectric constant anisotropy  $\Delta\epsilon (= \epsilon_{\parallel} - \epsilon_{\perp})$  of the dual-frequency liquid crystal. The example of the nematic liquid crystal shown herein is  $\Delta\epsilon > 0$  at a low frequency, As becomes smaller gradually as the frequency becomes higher, and  $\Delta\epsilon < 0$  at a high frequency range. Here, when  $\Delta\epsilon > 0$ , the longer axes of the molecules of the dual-frequency liquid crystal are aligned along the electric field, and when  $\Delta\epsilon < 0$ , the longer axes of the molecules of the dual-frequency liquid crystal are aligned perpendicularly to

the electric field. Accordingly, by simply varying the frequency, the refractive index of the dual-frequency liquid crystal can be varied in a substantially binary manner ( $n_o$  and  $n_e$ ), and thus the refractive index cannot be varied sequentially. (It should be noted that it may be possible to vary the refractive index by a balance of the anchoring force of the alignment layer and the force of the electric field, but this may encounter various problems as pointed out -in the prior art.)

Please replace the paragraph spanning page 35, line 19 through page 36, line 2 of the Substitute Specification as follows:

In the embodiment of Fig. 21, the variable refractive index material 81 has refractive index anisotropy and dielectric constant anisotropy. The dielectric constant anisotropy,  $\Delta\epsilon (= \epsilon_{\parallel} - \epsilon_{\perp})$  (dielectric constant in parallel to the longer axis of the molecule) - ( $\epsilon_{\perp}$  (dielectric constant in an orientation perpendicular to the longer axis of the molecule)) is positive at a frequency  $f_{11}$ , and  $\Delta\epsilon$  becomes negative at a frequency  $f_{12}$ . Further, the refractive index anisotropy,  $n_o$  (ordinary refractive index) is substantially smaller than  $n_e$  (extraordinary refractive index).